

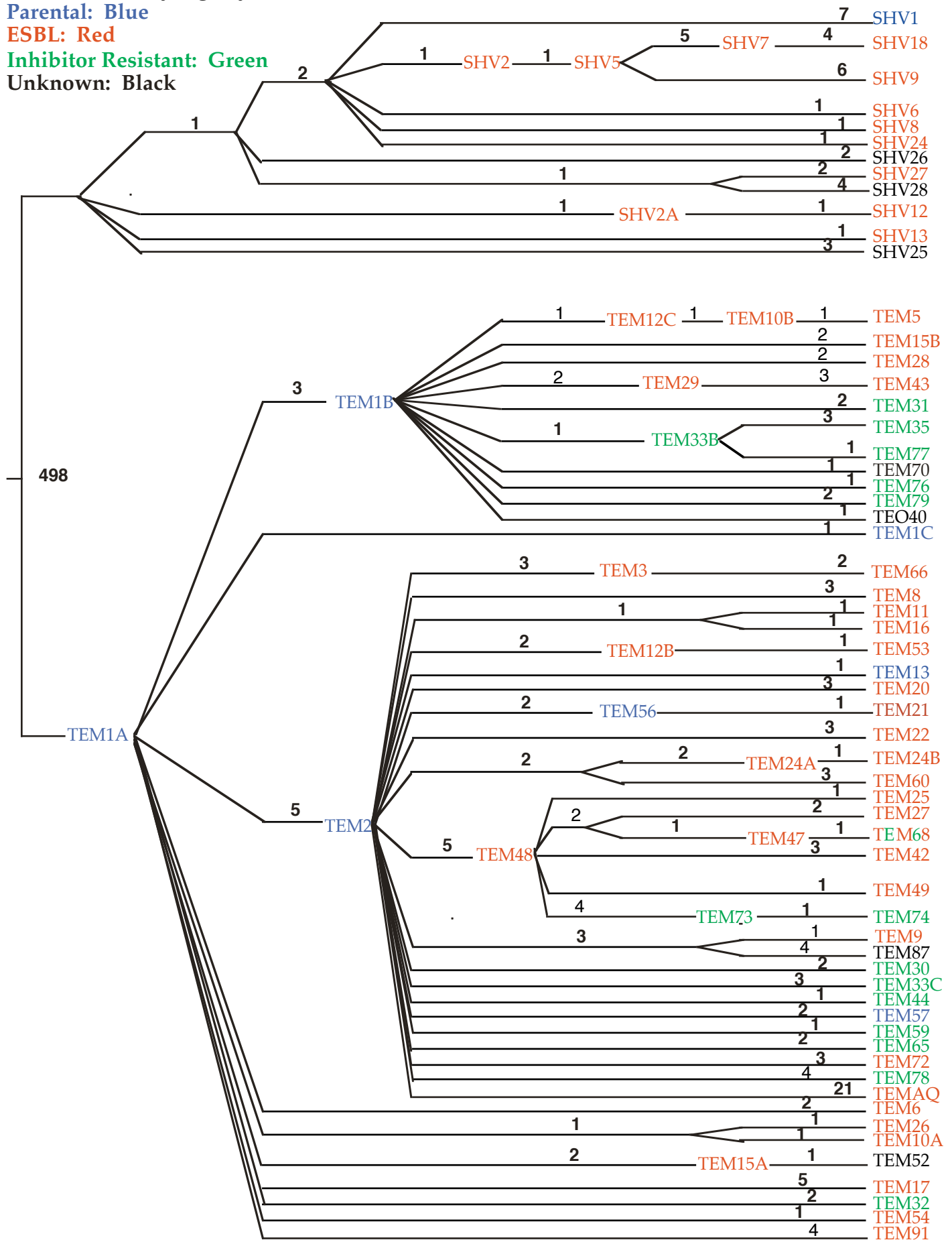
TEM/SHV Phylogeny

Parental: Blue

ESBL: Red

Inhibitor Resistant: Green

Unknown: Black



Blue = parental phenotype, i.e. substrate specificities and inhibitor sensitivities similar to TEM-1.
 Red = ESBL (extended spectrum) phenotype, i.e. increased activity to 2nd and 3rd generation cephalosporins
 Green = inhibitor resistant phenotype

Barlow, M. and B.G. Hall. 2002. Predicting Evolutionary Potential: *In vitro* Evolution Accurately Reproduces Natural Evolution of the TEM β -Lactamase. *Genetics* **160**: 823-832

NAME	Genbank accession	Protein accession	Reference	Phenotype
SHV1	X98098		AAC41:943-949	Parental
SHV2	X53433		AAC41:943-949	ESBL
SHV2A	X53817		AAC41:943-949	ESBL
SHV5	X55640		AAC41:943-949	ESBL
SHV6	Y11069		FEMS Micro. Lett.152:163-167	ESBL
SHV7	U20270		AAC39:899-905	ESBL
SHV8	U92041		AAC41:647-653	ESBL
SHV9	S82452		FEMS Micro. Lett.139:229-234	ESBL
SHV12	X98105		AAC41:943-949	ESBL
SHV13	AF164577			ESBL
SHV15	AJ011428			ESBL
SHV18	AF132290		AAC44:2382-2388	ESBL
SHV24	AB023477		AAC44:1725-1727	ESBL
SHV25	AF208796			unpublished
SHV26	AF227204			unpublished
SHV27	AF293345			ESBL
SHV28	AF299299			unpublished
TEM1A	J01749			Parental
TEM1B			AAC43: 1657-1661	Parental
TEM1C			AAC43:367-370	Parental
TEM2	AJ251946		AAC43: 1657-1661	Parental
TEM3	X64523		AAC43:2671-2677	ESBL
TEM5			AAC36:1817-1820	ESBL
TEM6	X57972			ESBL
TEM8	X65252		AAC36:1817-1820	ESBL
TEM9			AAC36:1991-1996	ESBL
TEM10A		AAC72362	AAC37:1989-1992	ESBL
TEM10B		AAC72362	AAC37:1989-1992	ESBL
TEM11			AAC43:367-370	ESBL
TEM12A				ESBL
TEM12B	M88143		AAC36:1981-1986	ESBL
TEM12C			AAC43:367-370	ESBL
TEM13			AAC43:367-370	parental
TEM15A			AAC43:367-370	ESBL
TEM15B			AAC43:367-370	ESBL
TEM16	X65254		AAC36:1817-1820	ESBL

TEM17	Y14574		AAC44:760-762	ESBL
TEM20	Y17581		AAC43:969-971	ESBL
TEM21	Y17582		AAC43:969-971	ESBL
TEM22	Y17583		AAC43:969-971	ESBL
TEM24A	X65253		AAC43:2671-2677	ESBL
TEM24B			AAC43:367-370	ESBL
TEM25			AAC38:2452-2453	ESBL
TEM26	L19940		AAC38:392-395	ESBL
TEM27			AAC39:458-461	ESBL
TEM28	U37195		AAC40:260-262	ESBL
TEM29	Y17584		AAC43:969-971	ESBL
TEM30			AAC42:879-884	IRT
TEM31			FEMS Microbio Lett 120:7	IRT
TEM32			AAC42:879-884	IRT
TEM33B			AAC43:367-370	IRT
TEM33C			AAC43:367-370	IRT
TEM35			AAC42:879-884	IRT
TEM42			AAC40:2488-2493	ESBL
TEM43	U95363			ESBL
TEM44			AAC43:2671-2677	IRT
TEM47	Y10279		AAC44:1499-1505	ESBL
TEM48	Y10280		AAC44:1499-1505	ESBL
TEM49			AAC44:1499-1505	ESBL
TEM52	Y13612			unpublished
TEM53	AF104441		AAC43:367-370	ESBL
TEM54	AF104442		AAC43:367-370	ESBL
TEM56			AAC44:453-455	parental
TEM57			AAC43:2671-2677	parental
TEM59			AAC43: 1657-1661	IRT
TEM60	AF047171			ESBL
TEM65			AAC43:2671-2677	IRT
TEM66			AAC43:2671-2677	ESBL
TEM68	AJ239002		AAC44:1499-1505	IRT/ESBL
TEM70	AF188199			unpublished
TEM72	AF157553			ESBL
TEM73	AJ012256		AAC43:2671-2677	IRT
TEM74			AAC43:2671-2677	IRT
TEM76	AF190694			IRT
TEM77	AF190695			IRT
TEM78	AF190693			IRT
TEM79	AF190692			IRT
TEM87	AF250872			unpublished
TEM91	AB049569			ESBL
TEMAQ	X97254		AAC41:2374-2382	ESBL
TEO40	AF308742			ESBL